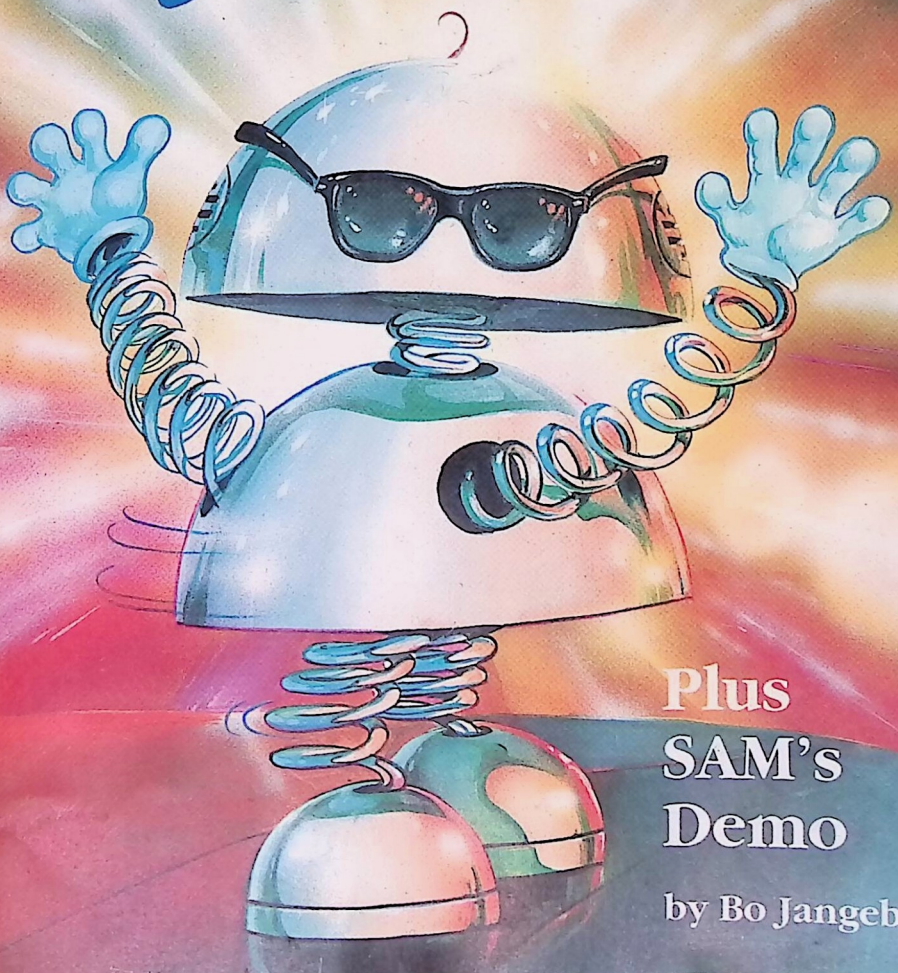
Flash!



Plus
SAM's
Demo

by Bo Jangeborg

FLASH!

The SAM Coupé graphic art spectacular!

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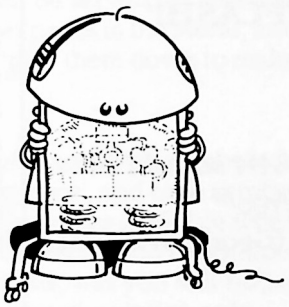
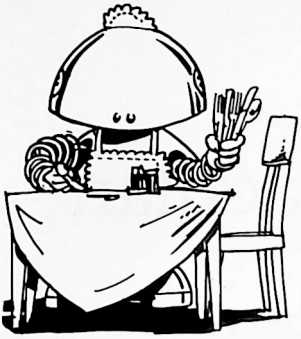


FLASH!



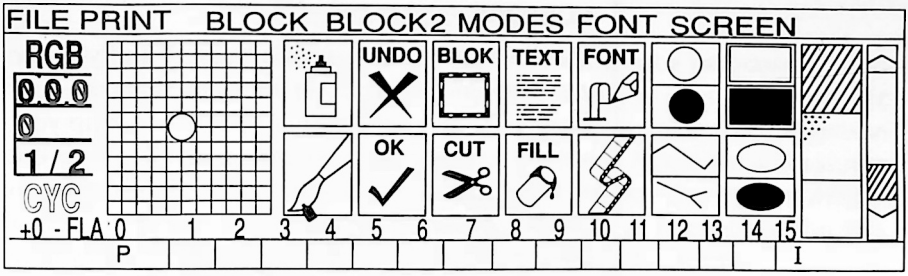
Congratulations! You are about to get to grips with our 'FLASH!' demonstration cassette, specially written for your enjoyment and practical use. So **LOAD** it into your SAM Coupé now. If you're not sure how, take a look at page 8 of the SAM Coupé User's Manual, which explains the cable connection between your computer and a cassette recorder, and the settings on your cassette recorder are covered on page 20 of that Manual. When everything is set up, just type LOAD "" then press the corner-shaped **[RETURN]** key on the SAM Coupé keyboard and start playing your 'FLASH!' cassette. In this booklet we've put the name of any special control keys on your computer keyboard in square brackets, such as **[RETURN]**.

SIDE A of the cassette contains an introductory collection of demonstration programs, followed by the 'FLASH!' artist's package by graphics wizard Bo Jangeborg. On **SIDE B**, the 'FLASH!' graphic art spectacular comes first, with the demonstration programs afterwards. You will be conducted through these demonstrations on your screen by our SAM cartoon character, and you are very welcome to **BREAK** into them and take a look to see how the BASIC programs work.

'FLASH!'

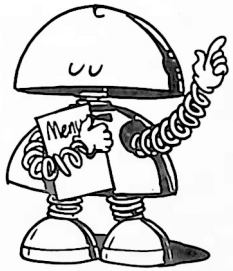
"Art should be free!"
(George Santayana)

This booklet is devoted to the 'FLASH!' artist's package, which will teach you how to get the very best out of the SAM Coupé's graphic art capabilities. In fact 'FLASH!' is a sort of instant graphics processor, allowing you to achieve anything your imagination can dream up, display it on your television screen and use it in your computer programs. It's not only very powerful, it's fun to use!



When 'FLASH!' has **LOAD**ed, you are presented with the 'working' screen. This features a range of options on offer for your use in creating and manipulating graphic images, set out in a series of working bars and rows of symbols. The 'control' area takes up the top part of your screen, and it's set out exactly as in the diagram above. The lower part of the screen shows part of whatever graphic image you want to work on, and we have supplied a ready-made image so you can begin to experiment right away.

'FLASH'! has been deliberately designed to be as easy to use as possible, and once you have learned to handle the 'control' area, you'll discover how simple everything is.



MAIN MENU

If you think of the 'control' area as the Main Menu, then all you have to do is point out which item you are interested in, and it will be served up immediately. There are lots of other pages in the Menu, and you will also learn how to 'pull' them down to make your selection.

ICONS

Take a look at the rows of boxes with symbols in them. We call these boxes 'icons', and each symbol represents the feature that becomes available when you open its box. The left-hand box on the bottom row has an image of a **BRUSH**, and you will notice a little picture of a stubby pencil pointing at it.

CURSORS

This little pencil is your main 'cursor', and you use it to pinpoint any items on the menu that take your fancy. There are other cursors ready to help you, and we'll explain their purpose as we go along, but all cursors are moved around your television screen in the same way. You have the choice of using a joystick or a mouse with 'FLASH!', but let's assume you are using your keyboard to control things. One press of the following keys will move your cursor by one dot (or 'pixel') across the screen. If you hold the key down, the cursor will keep moving until it is released:

[Q] moves up

[S] moves down

[I] moves left

[O] moves right

Move the stubby pencil cursor into the lower area of your screen now, and see how fast it can travel. You will also discover that it can move around diagonally if you press certain movement control keys together. Still keeping to the lower part of the screen, watch the coloured checkerboard area on the left-hand side of the Main Menu. It is displaying a magnified version of wherever your cursor travels in the graphic image, a sort of 'blow-up' which will be useful for creating and changing fine details in pictures and animations. (Yes, 'FLASH!' can do animations too.) Now place the cursor in the Main Menu, which makes the 'blow-up' display area turn into a full colour chart, displaying all of the shades to be found on page 66 of your User's Manual. Move the cursor to somewhere inside this colour chart area, and leave it there.

ACTION KEYS

Once the cursor is pointing out a particular option on a Menu, or pinpointing a spot on a graphic image, you need to be able to make your selection or trigger a course of action. Again, we will assume that you are using your keyboard to control things, and the keys **[N]** and **[M]** have been given the task of performing as special 'action keys'.

THE PALETTE

If you look at the bottom line of the Main Menu, you will see all the colours that are currently poured into the 16 paint pots of your artist's palette, numbered **0** to **15**. The long bar to the left displays the current paper colour **P**, and the long bar on the right-hand side shows the current ink colour **I**. You can choose any one of the 128 colours on offer in the checker-board colour chart and pour it into any of the numbered paint pots, as well as selecting if that colour is to be used as the paper (background) colour or the ink (drawing) colour.

"Colours speak all languages"
(Joseph Addison)

CHOOSE A COLOUR

Move the cursor and select any colour you want which is different from the ones already poured into your numbered paint pots. The left-hand coloured bar is a 'mixing' area, and when your new colour is triggered it gets transferred there. Another press of an 'action' key will transfer it to become the current **INK** colour. (You can also trigger the 'mixing' area directly.) If **INK** is set to any of the 16 paint pots it can be triggered to send it to the 'mixing' area. Similarly, move the cursor along the multi-coloured bar representing the current choice of the 16 colours poured into your palette's paint pots. When the cursor is resting over any one of them, press **[N]** to make that colour the current Paper colour, or **[M]** to select it as the current Ink colour.

SHUFFLING COLOURS

Here are a few short-cuts, using single number keys on your keyboard to perform instant changes in colour.

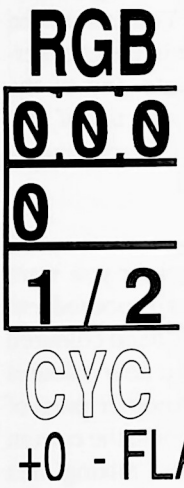
[1] shuffles the current **INK** colour one paint pot to the left

[2] shuffles the current **INK** colour one paint pot to the right

[3] shuffles the current **PAPER** colour one paint pot to the left

[4] shuffles the current **PAPER** colour one paint pot to the right

[5] toggles the brightness attribute ON/OF

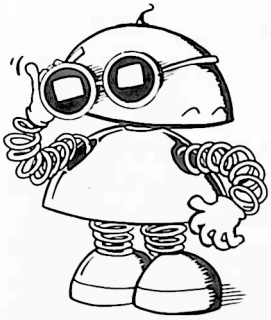


COLOUR ANALYSIS

Advanced users might be interested in the colour analysis reports displayed on the left of the Main Menu colour chart. It's headed **RGB**, which stands for the Red, Green and Blue components that make up all the colours in the chart selection. The single numbers below each component colour show the ratios of those colours mixed together to make up the current choice selected from the colour chart, and the number below that is the number that appears in the User's Manual colour chart. For example, colour number 37 (hog foot) is made up of 4 parts red, 2 parts green and 2 parts blue. Colour analysis is normally given in even values of red, green and blue pigments, but you can change this to odd numbered values by moving the cursor to the bottom line of colour analysis reports and and pressing **[M]** for odd values (which gives a subtle change of colour), returning to even values with a press of the **[N]** key. You can also mix colours directly by changing the **RGB** numbers themselves, in the same way as described below for **CYC** speeds.

CYCLING

And now for some instant special effects! Underneath the colour analysis reports there are the large letters **CYC**, which control 'cyclic' functions. If you look at the paint pot numbers **0** to **15**, you can see that two of them are highlighted in green. These control the limits for a rapid series of colour changes that can be cycled over and over again. The first highlighted number shows where the sequence begins and the second one indicates where it ends. To change these boundaries, simply move the cursor over any number and press **[N]** to begin the sequence, followed by **[M]** to end it. To control the speed of the cycling, go to the plus or minus symbols below **CYC** and touch them with the cursor. There is a range of speeds from **1** to **99** on offer, and you can decrease or increase this rate of colour change by using **[N]** to alter the speed by ten units at a time, or **[M]** to vary the speed one unit at a time. For example, highlight the range of paint pots from **2** to **14**, then go for a very fast rate of colour change by choosing a speed of **5**. Now place the cursor over the left-hand **C** to make the sequence cycle towards the left, or over the right-hand **C** for cycling to the right. Alternatively, you can choose the **Y** to make everything 'pulse' backwards and forwards between your paint pot selection. Hit either 'action' key **[N]** or **[M]** to start off any of these special effects, vary the speeds by changing values with plus and minus, and grind to a halt by reducing the speed to zero. The letters **FLA** next to the plus and minus on the screen are used to trigger the **FLASH** command in **MODES 1** and **2**. Please refer to the User's Manual if you don't understand what that means.



A graphic art package that only displays two-thirds of a screen at a time is about as useful as a chocolate kettle. At the extreme right-hand side of the Main Menu is a vertical indicator bar. The shaded area indicates the part of the current graphics screen that is obscured. By moving your cursor up and down this bar and then pressing **[M]**, you can scroll the graphics vertically. Of course, we have supplied a control for revealing the entire screen, and you will come across that in the next section.

THE ICONS

Now you can begin experimenting with the graphics and start drawing on the screen! Because the process of creating pictures with your computer can get a bit complex, there are two safety icons available, **OK** and **UNDO**.

OK

Every time that you feel satisfied with a stage of your artistic work, it's good practice to tell your SAM Coupé all about it. Simply run the cursor over the **OK** icon and press **[M]**. The computer will then fix the current state of the graphic screen in its memory, and use that as a reference point. An **OK** is automatically executed every time you use the **BLOK** or **CUT** icons, or use a 'Pull-Down' Menu inside **BLOCK** and **BLOCK2**.

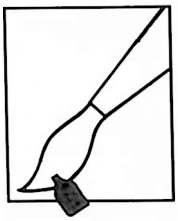
UNDO

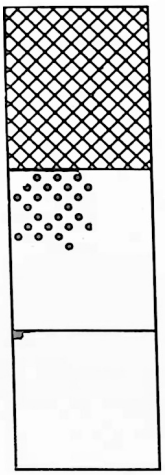
On the other hand if you make a mistake with your graphics and mess up the screen in any way, all you have to do is trigger the **UNDO** icon with the cursor and a press of either 'action' key. The computer will rub out anything on the screen that was placed there since the last **OK** reference, allowing you to start again from the stage when you felt satisfied. And if you then suffer a bout of second thoughts, another press of an 'action' key will **UNDO** the **UNDO**! Both

the **OK** and **UNDO** icons will flash green when you use them to indicate that the computer has taken notice of your instructions.

If you've been impatient and started playing around with the other icons, you are politely requested to start from scratch and **LOAD** up 'FLASH!' again, because the next part of this booklet is a step-by-step guide to creating graphic images, and all the settings should be exactly as they were when 'FLASH!' started up.

There is a choice between two methods for simple drawing on screen. You can use a range of paint brushes, from the finest artistic line to the equivalent of a decorator's roller! Or you can opt for a spray can with a range of different nozzles, allowing a more subtle see-through effect. There is also a method of filling larger areas with patterns and textures.





PAINT BRUSH

When 'FLASH!' starts up, you are automatically given a hair-line paint brush to use. It is moved by the usual cursor controls, so position it somewhere in the graphic screen area now and get ready to paint. To paint with the current **PAPER** colour, you keep the **[N]** 'action' key held down, and move the cursor in any direction you choose. This has the effect of rubbing out any pixels that are set to the current **INK** colour. Similarly, if you want to paint using the current **INK** colour, keep **[M]** pressed down as you move around the screen.

CHANGING STYLES

Now move the cursor over to the right-hand side of the Main Menu, where you will find three icons stacked on top of one another. The bottom one is used to select a new paint brush, so trigger it now and take a look at the range on offer. Move the **[I]** **[O]** cursors to browse left and right, and watch the

different brushes appear in the bottom **BRUSH SELECTION** icon. When you have made your choice, press **[M]** for action, and try using the new brush for painting. After testing the various brushes, **UNDO** your handiwork and trigger the **SPRAY CAN** icon.

SPRAY CAN

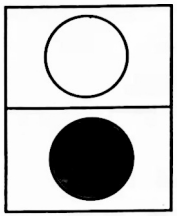
This is used in exactly the same way as a paint brush, and is pre-set with a fine nozzle. To change styles, go to the middle icon in the stack of three, which is for **SPRAY SELECTION**, and experiment with the various options. Notice how the use of similar styles has a slightly different effect depending on whether they are painted or sprayed on.

FILL

If necessary, **UNDO** your latest daubings and draw a rectangle somewhere on the graphic screen. Now select the option for filling in areas with colours or patterns. The **FILL** icon calls up a new cursor to remind you that you are dealing with a different method of manipulating images, so move this mobile paint pot into the rectangle that you've drawn, and hit **[M]** to fill it with the current pattern that appears in the **PATTERN SELECTION** icon (the top icon in the stack of three on the right of the Main Menu). Now rub the pattern out by pressing **[N]**. To see the selection of patterns available, trigger the **PATTERN SELECTION** icon and make your choice as usual. **FILL**ing in **MODE 3** operates over half the screen at a time.

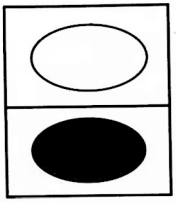
You can also paint and spray using these patterns, and this effect is turned on and off by pressing the **[F9]** function key on the computer keyboard. You'll find some similar shortcuts at the end of this booklet.

If you want to draw geometric shapes by hand, the process will take a long time and the results may well be inaccurate. Don't worry, there are several shortcuts waiting to help you. First choose an appropriate **BRUSH** and then experiment with the following techniques:



CIRCLE

Trigger the top **EMPTY CIRCLE** icon, which represents the circumference of a circle. You draw a circle by picking a spot on the graphic screen with the cursor to pinpoint its centre by pressing **[N]**. Then you move the cursor away to wherever you want the edge of that circle to appear, and hit **[M]**. You can draw as many circles as you want, and overlap them in any way. By triggering the lower **FILLED CIRCLE** icon, circles can be drawn in the same way as empty circles, but they are automatically filled with the current colour or pattern effect.



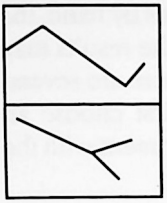
ELIPSE

The two elipse icons work in much the same way as those that allow the drawing of instant circles. First activate the **EMPTY** or **FILLED ELIPSE** icon, and then set its centre with **[N]**. Now experiment with your cursor before fixing the elipse's final coordinates with **[M]**. A choice of a vertical or horizontal axis is allowed.

BOX

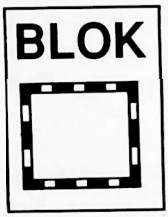
This pair of icons triggers the drawing of squares and rectangles, and you can select an **EMPTY** or **FILLED BOX**. As with circles and elipses, you use **[N]** to set the first screen coordinate, or starting point, and then play around with the cursor until you are happy with the dimensions of your box, which is finally set by pressing **[M]**.

FILLED circles, elipses and boxes remain empty until their positions are fixed on screen with **[M]**.



LINE

To achieve simple line drawings, there are two icons that can be activated. The top one lets you create a CONTINUOUS LINE, by setting a starting point with [N], and then moving the cursor to any number of further positions and pressing [M] every time you want to continue the line. To set a new starting point, simply press [N] again. With the bottom RADIATING LINE icon, [N] sets up a starting point just like before, but the computer uses it as a reference position until you choose to use [N] again to set a new one. Set up a reference point now, and then draw radiating lines from it, by pressing [M] every time you mark the end of each radiating line with your cursor.

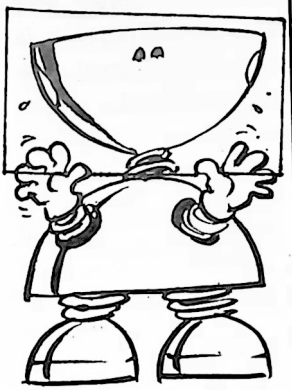


"Det här är ett Svenskt skämt!"
(Bo Jangeborg)

BLOK

As you may have gathered, the author of 'FLASH!' is Swedish. He's been invited to explain why he has chosen to spell this icon **BLOK**, and we are pleased to print the answer alongside. Now that's clear, you can be introduced to one of the most powerful functions of this graphics package. When the **BLOK** icon has been triggered, 'FLASH!' immediately displays the entire graphics screen and waits for you to define a **BLOCK** of graphics inside the pulsating 'window'. You can treat the entire screen as the **BLOCK** if you wish, or redefine its borders by setting the first corner of the 'window' with the cursor and pressing [N]. The cursor can then be moved around the screen, and you can watch it pulling the 'window' frame with it, in any direction. To set the boundary of the **BLOCK**, press [M]. This is where the real fun begins.

Make a small **BLOCK**, as described above. Now move it around the screen with the usual cursor controls. Glue a copy of your **BLOCK** in position by



pressing **[M]**, and move it again. You can position as many copies of the **BLOCK** as you want, and they can overlap in any way. Perhaps you need to **UNDO** the screen at this stage, before trying out the following special effects with these keys:

[1] inverts whatever is in the **BLOCK**

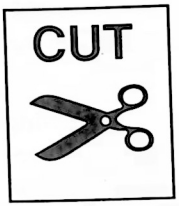
[2] gives a mirror image

[3] rotates the image through 90 degrees every time you press it

[4] gives various special effects in different **MODES**, resulting in certain aspects of the image combining to give outlines and enhancement. (Advanced users can understand this as **OR**ing)

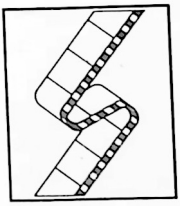
[5] causes solarisation and alternative enhancement. (Using **XOR**ing)

The easiest way to understand these effects is to use them in the four different **MODES**. (Don't worry, there's a special Menu for instant **MODE** changes.)



CUT OUTS

This icon calls up a similar service to creating **BLOCKS** as described above, but allows you to manipulate irregular shapes instead of rectangles. You have probably guessed that **[N]** is used with the cursors to set up a start position on the screen, and **[M]** fixes the boundaries of your **CUT OUT** shape.



ANIMATION

And now for something very special! Imagine taking a **BLOCK** of graphics, copying it, changing it very slightly, copying it again, and repeating this process until you have a whole series of 'frames' just like a video or cinema film. No problem: you can make movies with 'FLASH!'. As soon as the **ANIMATION** film-strip icon is activated, six new icons replace those that normally occupy the right side of the Main Menu.

"The movies is where you go to applaud yourself"

(Will Rogers)

MARK is used to set up the graphic **MARKER** for grabbing the current **BLOCK** as a frame for your animation sequence.

FRAME (the letter **F** with a pair of 'higher' and 'lower' arrows) is your **FRAME COUNTER**. It is used to number a frame in the sequence that is currently being worked on. Simply trigger the arrows to change the number. Primitive computer animation used to flick between two frames, and even now it is quite normal to use as few as six frames a second. 'FLASH!' is spectacularly different! You can create up to 99 frames at a time and animate them as fast as you like, depending upon how vast they are. But because all frames must appear on your working screen before they can be used in a sequence, large numbers will have to be kept on the small side.

SPEED is represented by the **S** icon, and the number in its box refers to the **SPEED** at which your animated sequence is to be displayed from **0** to **255**. Again, the rate of delay varies with the size of your frames.

QUIT is the option for calling back all the drawing icons in the Main Menu, which is why it's represented by a series of geometric shapes fitted inside one another.

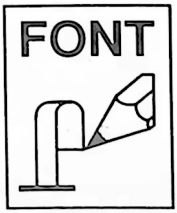
BEGIN and **END** are the pair of icons used to define at which frames your animated sequence starts and finishes. You trigger the numbers in these icon boxes to achieve this, and when the sequence is kicked off the screen clears and a movie screen the exact size of your animated **BLOCK** appears at the top left of your picture. The animation sequence will then repeat itself according to your instructions regarding **FRAMES**, **SPEED**, **BEGIN** and **END**.

If an animation frame is called up that is not yet defined, 'FLASH!' will automatically go to **MARK**, and wait for you to set a new **MARKER**. When used with the other graphics techniques available in 'FLASH!', the animation possibilities are almost infinite, but there is even more to come.

Before moving on to all of the Pull-Down Menus supplied to help with your own graphic programming, the two character options should be examined.

TEXT

When you activate this icon, you are presented with a new cursor in the shape of a type-setting bar. Move it onto the graphic screen to any position where you feel like entering a caption, some graphic symbols, or anything you feel like from the computer keyboard. Press **[M]** to insert text, and type something in. You can use the **[DELETE]** key to rub out mistakes, or set up the cursor again to overtype at a later stage. To glue your text on the screen, simply press **[RETURN]**. If you don't do this, any text will stay safe in a 'buffer'. By pressing the **[EDIT]** key you can move your text around the screen, and reposition it.



FONT

When the **FONT** icon is tickled, the screen changes completely. The whole character set is displayed along with a magnified working area. Move the cursor around the character set, and highlight a new working area with **[M]**. Now place the cursor over any of the magnified characters and change it pixel by pixel, using **[N]** to delete or 'unset' and **[M]** to insert or 'set'. You can do a whole lot more besides, as you are about to discover. When the **FONT** icon is activated, there are five special Pull-Down Menus in a green line, which are accessed by moving the

cursor to the very top of the screen and touching the appropriate Menu title. From left to right, the new menus are as follows:

FILE is fully explained in its own section, later in this booklet. It's used to integrate existing or new styles of characters (or **FONTS**) into your computer programs, and the options are **DRIVE**, **LOAD**, **SAVE**, **VERIFY**, **CAT**, **ERASE** and **QUIT**.

FONT. Are you unhappy with the character set? Then trigger the new **FONT** Pull-Down Menu and pick another from **SMALL**, **BOLD**, **GOTHIC** or **FUTURE**. And if they don't satisfy you, you can change anything you like in them. The **SPECIAL** font is for manipulating the cursor icons for **BRUSH** and **SPRAY**, and you are also allowed to load in other fonts as well.

Characters are intimately connected with the water-closet"
(Voltaire)

CHR changes a single character already highlighted in the main menu, as follows: **INVERT** produces a 'negative' version of that character by swapping over the pixel settings. **MIRROR** produces a mirror image of the character. **TURN** rotates the character through 90 degrees every time you use it.

ALL changes every single character in the character set simultaneously, in exactly the same way as above with **INVERT**, **MIRROR** and **TURN**.

QUIT returns you to the original Main Menu of 'FLASH!'

PULL-DOWN MENUS

The next section deals with all the hidden Menus, that are called up from the selection displayed along the green top row of the Main Menu. If you move the cursor and touch one of the headings there, its own menu will be 'pulled down' immediately. All the options contained in each Pull-Down Menu are selected as usual, by moving the cursor over your

choice and activating the selection with **[N]** or **[M]**. When certain options appear with a green background, this means that they can NOT be used in the current screen **MODE**, or that they are unsuitable for the particular device you are using, such as a disk drive. Otherwise, this sort of highlighting of a Menu option shows what the current setting is. We'll explain the Pull-Down Menus one by one, starting at the top left-hand corner of the Main Menu.

FILE

FILE Menu

This is the section that helps you to handle all the artistic masterpieces fed in to or pumped out of 'FLASH!'. Inexperienced users should first become familiar with the concepts of computer software and **SAVE**ing and **LOAD**ing techniques, all explained in Chapter 3 of the User's Manual. Running from top to bottom of this Pull-Down Menu, the options are as follows:

DRIVE selects between your use of a cassette recorder or a disk drive, for storage of screens and files.

LOAD prepares 'FLASH!' to accept a graphic screen into available memory.

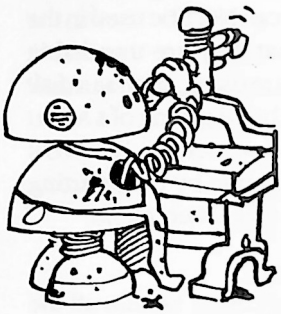
SAVE starts the process of storing the current screen on to cassette or disk.

VERIFY checks that a stored screen is exactly the same as the current screen.

CAT is short for **CAT**alogue, and will display a list of all the names of your screen files saved to a disk, ready to be called up.

QUIT hauls you out of the Menu and returns you to SAM BASIC, for programming.

PRINT



PRINT Menu

This Pull-Down Menu is for anyone using a printer to make copies of graphic screens on paper.

FINAL will set 'FLASH!' to prepare a high quality copy of the current screen in monochrome, which is another way of saying 'lots of shades of black, grey and white'.

DRAFT prepares 'FLASH!' to produce a snapshot-quality image of the current screen, for your reference.

LARGE DUMP is available for specialist users, and prints out a full-scale graphic image in 'landscape' format (or sideways-on, if you don't like jargon).

SMALL DUMP not only describes the place where I was born, but also commands a reduced-size colour print-out to be produced in 'portrait' format (or with the paper turned short edge up).

GREY DUMP L. prints a monochrome version of **LARGE DUMP**, using 16 shades.

GREY DUMP S. prints a monochrome version of **SMALL DUMP**, in the same 16 shades.

BLOCK

BLOCK Menu

This is a wonderfully creative Menu that involves isolating a rectangular block of your graphic screen and making mincemeat out of it! It's got so much in it, we need two columns for all the options. You will notice that it kicks off with the entire screen being treated as the 'block' in question, surrounded by a dotted 'frame'. As you might expect, when you get to work on your screen, you use your cursor control to set the dimensions of whatever block you want, followed by the action' keys to get your creative commands going.

"Art for art's sake"

(10 CC)

WHOLE BLOCK sets up the entire graphic screen as a 'window' of graphics to be manipulated in any of the ways listed below.

OPEN BLOCK allows the marking out of a rectangular 'window' block of any size on screen, ready for manipulation..

CLEAR instructs whatever is drawn in the window to clear off, and rubs it out. (If you regret your actions, don't forget the use of **UNDO**!)

INSERT allows you to **LOAD** in the contents of another graphic image into your window, and the on-screen prompts are fully automatic.

SCROLL is used to move the contents of your window by scrolling it one pixel at a time.

TWIST will rotate the contents of the window through 90 degrees, every time you use it.

INVERT swaps over the **PAPER** and **INK** colours of whatever is within the window frame.

MIRROR is exactly like holding up your framed image to a mirror, and results in its reflected image appearing.

THICKEN makes certain lines and outlines of the graphic image take on a stronger definition.

OUTLINE creates a definite graphic border effect around shapes and lines in the image. The best way to understand all of these effects is to try them out!

BLOCK2

BLOCK2 Menu

This set of options is also designed for use with windows, and it is concerned not so much with graphic manipulation but more with the handling of blocks of colours inside the window frames. This is a good example of the use of green highlights in the Pull-Down Menu indicating that you can't use certain options in particular screen **MODES**.

SET ATTRI allows you to set up the attribute values in relevant **MODES**. (Maybe you should read my User's Manual after all, because there simply isn't enough room to explain all these terms in this booklet!)

In the relevant **MODE**, **SET INK**, **SET PAPER**, **SET BRIGHT** and **SET FLASH** will set those attributes to all character cells within the current window.

SWAP P/I instantly swaps over all paper colours to the colour of any ink that is drawn on them, and vice versa.

REPL P/I will replace the current paper colour with the current ink colour.

MODES

MODES Menu

This is a tricky one. If you have read the User's Manual, you will understand why you are able to swap between **MODES 3** and **4** 'til the cows come home, with no effect on your graphics. You will also show no surprise when swapping between **MODES 1** and **2** and other modes results in all sorts of degradation and weird effects. The **MODES** Pull-Down Menu is normally preset for operation via the computer **keyboard** in **MODE 4**, which is why those two options are highlighted in green. Anyone used to Spectrum graphics should select **MODE 1** now and see what happens to the sample graphic screen. You'll probably want to return to the SAM Coupé's start-up **MODE 4**. In fact, 'FLASH!' remembers in which mode any graphics have been saved from within itself, but if you need to load in graphics that have been saved from anywhere else, you should check their source first, because 'FLASH!' will load them into the current **MODE** setting, and they may well get altered.

INVERSE will change every colour displayed in your graphic screen to its inverse equivalent, giving a 'negative' effect in **MODES 1** and **2**.

OVER causes a 'swapping' of colours where they overlap on screen, when drawing in **MODES 1** or **2**.

COLOUR instructs 'FLASH!' to make use of the current selection of colour for **DRAW**ing or **FILL**-ing, in **MODES 1** or **2**.

PATTERN selects the current pattern for use with a **BRUSH** or **SPRAY**.

MOUSE allows you to use an MGT mouse for controlling 'FLASH!', instead of the keyboard. The cursor follows the movement of the mouse, Button **[1]** is the equivalent of key **[M]** and Button **[2]** takes over from key **[N]**.

KEYBOARD is the selection for keyboard control.

JOYSTICK allows you to use a joystick for controlling the cursor, with the fire-button performing instead of key **[M]**. You will still have to operate key **[N]** from the keyboard.

MODE 1, **MODE 2**, **MODE 3** and **MODE 4** are selected from the right-hand column of this Menu in the usual way.

FONT

FONT Menu

We have come across this Pull-Down Menu before (inside the **FONT** icon options). You may call up the following different styles of characters for use in your own programs and graphic screens: **NORMAL**, **SMALL**, **BOLD**, **GOTHIC**, **FUTURE**, (which can all be customised to your liking) as well as the **SPECIAL** font.

SCREEN

SCREEN Menu

The final Pull-Down Menu offers some more specialist options, as follows:

GREY.COL sets the palette to a monochrome scale of shades, ranging from black through subtle degrees of grey/blue to white, to give a 'newsprint' effect.

SPEC.COL instantly emulates the screen colours of the Spectrum micro computer.

GRID operates in **MODES 1** and **2**, and superimposes a checkerboard grid over the graphic screen by making alternate character cells bright.

VIEW reveals the whole graphics screen. Press **[N]** or **[M]** to get the Menu back.

CLEAR ANI is a powerful command, that erases all frames held in any current animation sequence.

FUNCTION KEYS

Users may find it easier to use the function keys on the right-hand side of the SAM Coupé keyboard to achieve the following controls:

[F7] moves the choice of **PATTERN** to the left

[F8] moves the choice of **PATTERN** to the right

[F9] toggles the **PATTERN** option in the same way as explained in the **MODES** Pull-Down Menu

[F4] moves the choice of **SPRAY** nozzle to the left

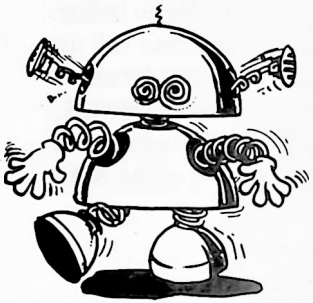
[F5] move the choice of **SPRAY** nozzle to the right

[F6] toggles the **COLOUR** option in **MODES 1** and **2**, turning the attributes ON/OFF

[F1] moves the choice of **BRUSH** size to the left

[F2] moves the choice of **BRUSH** size to the right

[F3] toggles the **FLASH** option ON/OFF in **MODES 1** and **2**



THIS 'FLASH!' INSTRUCTION BOOKLET IS WRITTEN AND DESIGNED BY MEL CROUCHER, LASER TYPESET BY KATE CAMERON-DAUM AND ILLUSTRATED BY ROBIN EVANS, FOR YOUR ILLUMINATION.
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"This flash is everything"
(Leon Trotsky)

"Flash! Ah-ah, Saviour of the universe!"
(Queen)

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